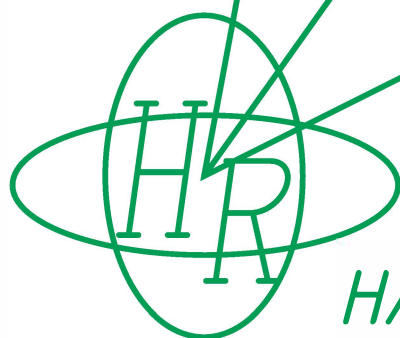


POLISH

*JOURNAL OF ENVIRONMENTAL
STUDIES*



HARD OLSZTYN

Vol. 35, No. 5, 2026

POLISH JOURNAL OF ENVIRONMENTAL STUDIES

Professor
JERZY RADECKI

EDITOR in - CHIEF
Professor HANNA RADECKA

EXECUTIVE EDITOR
Dr. DOROTA KULKA-RADECKA

TECHNICAL EDITOR
Eng. MARIUSZ KULKA

EDITORIAL BOARD:

IMRAN ALI
Southwest University of Science and
Technology, Mianyang, China

IRENA BARANOWSKA
Polytechnic of Silesia, Gliwice, Poland

LIGITA BALEŽENTIENĖ
Vytautas Magnus University, Kaunas
district, Lithuania

JAN BOGACKI
Warsaw University of Technology, Poland

BOGUSŁAW BUSZEWSKI
Nicolaus Copernicus University, Toruń,
Poland

MEHMET CETIN
Kastamonu University, Kastamonu,
TURKEY

ŁUKASZ CHRZANOWSKI
Poznań University of Technology, Poland

JAN DERCO
Slovak University of Technology,
Bratislava, Slovakia

JAN DOBROWOLSKI
AGH University of Science and
Technology, Kraków, Poland

HÉCTOR FERNÁNDEZ
Universidad Nacional De Rio Cuarto,
Departamento de Quimica, Rio Cuarto,
Argentina

S. J. S. FLORA
National Institute of Pharmaceutical
Education and Research (NIPER),
INDIA

EWA FLOREK
University of Medical Sciences, Poznań,
Poland

MAGDALENA GANTNER
Warsaw University of Life Sciences, Poland

JANINA GOSPODAREK
University of Agriculture, Cracow, Poland

MARIA HEPEL
Potsdam College, The State University
of New York, USA

PIOTR HERBUT
University of Agriculture, Crakow, Poland

YUH-SHAN HO
College of Environmental Sciences, Peking
University, Beijing, People's Republic
of China

MIROSLAV HUTNAN
Slovak University of Technology, Slovakia

DANA - ADRIANA ILUTIU - VARVARA
Technical University of Cluj – Napoca,
Romania

HARRY D. KAMBEZIDIS
National Observatory of Athens, Greece

HANNA KLIKOCKA
University of Life Sciences in Lublin,
Poland

MONIKA KOWALSKA-GÓRALSKA
Institute of Biology, Wrocław, Poland

ANNA KOZAK
Adam Mickiewicz University in Poznań,
Poland

MAŁGORZATA KRZYWONOS
Wrocław University of Economics, Poland

JAN KUCHARSKI
University of Warmia and Mazury
in Olsztyn, Poland

E. KUDJO DZANTOR
Tennessee State University, USA

ROBERTO LAI
University of Sassari, Italy

ULRICH LÜTTGE
Institute of Botany, TH Darmstadt,
Germany

GRZEGORZ MAJ
University of Life Sciences in Lublin,
Poland

SHELLEY MINTEER
University of Utah, Department of
Chemistry, Salt Lake City, USA

JACEK NAMIESNIK
Chemical Faculty, Gdansk University
of Technology, Poland

CEMILE OZCAN
Kirkklareli University, TURKEY

DAINIUS PALIULIS
Vilnius Gediminas Technical University,
Lithuania

MARIUSZ PELECHATY
University of Adam Mickiewicz, Poznań,
Poland

FÁBIO PORTELLA
Federal University of Pernambuco, Recife,
Brazil

FERNANDO PORTO
Federal Rural University of Pernambuco,
Recife, Brazil

BALTRENAS PRANAS
Vilnius Gediminas Technical University
(VGTU), Lithuania

STANISŁAW PRZESTALSKI
University of Agriculture, Wrocław, Poland

MAHMOOD QAISAR
COMSATS University Abbottabad,
Pakistan

JOANNA ROSAK-SZYROCKA
Czestochowa University of Technology, Poland

GUNNO RENMAN
Royal Institute of Technology, Stockholm,
Sweden

ROBERTO RICO-MARTÍNEZ
Autonomous University of Aguascalientes,
Aguascalientes, Mexico

JERZY SIEPAK
University of Adam Mickiewicz, Poznań,
Poland

PEDRO SIMÕES
CERIS-IST, University of Lisbon, Portugal

MITSUYUKI SOMA
University of Shizuoka, Shizuoka 422,
Japan

AGATA SZYMAŃSKA-PULIKOWSKA
University of Life Sciences in Wrocław,
Poland

YUKINORI TANI
University of Shizuoka, Japan

CEM TOKATLI
Trakya University, Ipsala Vocational
School, Edirne – Turkey

ASHOK VASEASHTA
U.S. Department of State, Washington,
USA

**CARLOS EDUARDO FRONTANA
VÁZQUEZ**
Centra de Investigación y Desarrollo
Tecnológico en Electroquímica, Cideteq,
SC, Queretaro, Mexico

HEINZ-RUDOLF VOIGT
University of Helsinki, Finland

JAN VYMAZAL
Czech University of Life Sciences Prague,
Czech Republic

AMIR WASEEM
Quaid-i-Azam University, Islamabad-
45320, Pakistan

AGNIESZKA WOLIŃSKA
The John Paul II (The Second) Catholic
University of Lublin, Poland

POLISH JOURNAL OF ENVIRONMENTAL STUDIES
Vol. 35, No. 5 (2026)
PART I

REVIEW

1. Bibliometrics-Based Visualization and Hotspot Analysis of Water Environment and Sports Events: A Review
HAN CHEN, YINCHUAN XUE, YINING QIN, SHU XUAN, XINGHONG DAI 5513
2. *Prunus spinosa* L. – Source of Bioactive Compounds with Antioxidant and Pharmacological Predicted activity
GABRIELA MITEA, VERGINICA SCHRÖDER, IRINA MIHAELA IANCU, MARIANA LUPOAE, CATERINA NELA DUMITRU, MARIUS DANIEL RADU 5531
3. Ecological Health Assessment of the Mekong River and Its Tributaries: Challenges and Future Perspective – A Review
ANH DUC PHAM, TAN DUC NGUYEN, THANH SON DAO, VU THANH NGUYEN, XUAN DONG NGUYEN, DOAN DANG PHAN, THANH LUU PHAM 5543
4. Electrolyte Leakage and Seepage Mechanism of Electrochemical Energy Storage Stations in Cold Regions: A Review
AN TAO, ZHAOHUI SHI, LEI ZHANG, SEN HU, BO TAN 5559
5. Wetlands in Saudi Arabia: Review and Assessment of the Environmental Hazards in Al-Asfar Lake
KHALID G. BIRO TURK 5573

ORIGINAL RESEARCH

1. Comparative Analysis of Plant Response to Artificial Electromagnetic Fields
KALSOOM ASGHAR ALI, HANEN KARAMTI, TAHREEM FATIMA, MUHAMMAD AMJAD YOUSAF, ZIA-UL-HAQ 5587
2. Unveiling Salinity Tolerance during Germination in Tunisian Barley Genotypes: Implications for Arid-Zone Agriculture
FAIZA BOUSSORA, SIHEM BEN ALI, TEBRA TRIKI, AMNA GHANMI, ALI FERCHICHI, KAMEL NAGAZ, FERDAOUS GUASMI 5597
3. Assessment of Spatial and Temporal Variations in Chemical Parameters of Rainwater in Sivas City Center with Multivariate Statistical Approaches
SEHER DIRICAN 5609
4. Integrating Geo-AI with GIS and RS for Analyzing Land Cover Transformation and Its Impacts in Henan
ZHENJIANG DONG 5623
5. Spatial-Temporal Evolution and Influencing Mechanism of Land Use on Ecosystem Service Values in the Taihu Lake Basin in China
MINGYUE GAO, YONGBO WU 5637

6. Population Flow, Urban Innovation and Carbon Emissions from Urban Agglomerations:
A Spatial Econometric Analysis Based on Major Urban Agglomerations in China
GUANGHU GUO, FULIN WEI 5653
7. Research on the Calculation Method of Carbon Emissions Integrating Nighttime Lighting
Data and the Coefficient of Urban Industrial Structure Level
WENFENG HUANG, XIAOYU ZHANG, KE PAN, JIE LUO, HAO TANG 5669
8. Bioaccessibility and Health Risk Assessment of Inhalable Heavy Metals in Soil
from the Bayan Obo Mining Area, Northern China
RUI JI, DE YAO, CHI LI, JING LUO, CAIFEI LIANG, YU GAO, SHUANHU LI,
XIAORONG WANG, LEI TIAN 5689
9. Assessment of the Impact of Soil Contamination by Potentially Toxic Elements on the
Bioavailability in Barley Straw
KAROL KOČÍK, DAGMAR SAMEŠOVÁ, JURAJ PONIŠT, JARMILA SCHMIDTOVÁ,
MARIÁN SCHWARZ, PETER ANDRÁŠ, DARINA VEVERKOVÁ 5705
10. Combined Phytotoxicity of Microplastics and Lead on the Growth and Physio-Biochemical
Characteristics of Tobacco (*Nicotiana tabacum*)
HAIBIN LI, SHUAI LIU, WENJING SONG, XILIANG SONG, JIAN HUANG,
LIN MENG 5719
11. Design and Valuation of Rainfall Derivatives within the Yangtze River Economic
Belt in China
YI LI, BING ZHOU 5735
12. Evolution of the “Panda–Rest–Bamboo” Ecosystem and Corridor Construction:
A Case Study of Giant Panda National Park
QUAN LIANG, RONG PENG 5751
13. Salinity Levels Alter Soil Nitrous Oxide Emission, Ammonia Volatilization,
and Nitrogen Leaching
SHAOWEN LIU, KAZEM ZAMANIAN, JINGRU XU, LEI XU, YUE WU,
WEIMING LI, WENJUN XIE, GUODONG SHAO 5767
14. Microbial Zonation Mechanism and Low-Cost Restoration Strategy of Iron and Manganese
Cycle in Riverbank Filtration System Based on Multi-Omics: An Empirical Study
of Three-Level Redox Gradient Model
WENLONG LIU, JUN PAN, YUNZHU HAN 5777
15. Structure of Microbial Communities of *Castanopsis hystrix* Plantations
at Different Stand-Ages
HAN SHENG, FASIH ULLAH HAIDER, LUIS CARLOS RAMOS AGUILA,
MUHAMMAD SADIQ KHAN, JUXIU LIU, ZHIQI LI, XU LI 5791
16. Identification of Mine Water Inflow Source Based on Deep Learning Approaches
JUNQING SUN, HAO WANG, HONGBO SHANG, XIAODONG WANG,
TIAN TIAN WANG, WEI QIAO 5801
17. Soil Heavy Metal Pollution and Ecological Risk Health Risk Assessment
in Gengzhen Town, China
QIFA SUN, ZHUOAN SUN, JIANHENG WANG, CHEN HU, XU WANG,
DEXIAN YANG, JIAN ZHAO 5817

18. Beehive Microclimate Significantly Influences Colony Growth, Morphometric and Reproductive Traits of Honey Bee (<i>Apis mellifera</i> L.) Queens Reared During Winter	EL-KAZAFY A. TAHA, MOHAMED B. SHAWER, REDA TAHA, NABIL M. ELWAKEIL, SAAD N. AL-KAHTANI, SAHAR GABER, HEBA I. GHAMRY, KAREEM MOUSA	5831
19. Evaluation of Heavy Metal Contamination and Nutritional Value of Mollusks in Ex-Tin Mining Areas on Bangka Island, Indonesia	UMROH UMROH, AGUNG PRIYAMBADA, RINI SUSILOWATI, SAWUNG CINDELARAS, DWI BUDIYANTO TRISNOHARJONO, AHMAD NURIDHA, SUSILO RAHARJO	5841
20. Sorption Behaviors and Mechanisms of Cadmium on Polypropylene, Bamboo Biochar, and Rice Husk Ash in Aqueous Solutions	NANTIRA VORAKARNCHANABUN, SUCHANYA WONGROD, SASIDHORN BUDDHAWONG	5855
21. Health Impacts and Risk Perception of Extreme Temperatures in Northwest China: A Population-Based Cross-Sectional Study	BIN WANG, DONGLIANG HAO, GUORONG CHAI	5867
22. Sources and Pollution Evaluation of Heavy Metals in Urban Green Space Soil of Suzhou City, Anhui Province, China	LING WANG, JIYING XU, CHEN CHENG	5879
23. A Path to Agricultural Fertilizer Non-Point Source Pollution Control Enabled by Big Data and Machine Learning	YUXIN WANG	5891
24. Study on the Hydrochemical Characteristics and Environmental Background Values of Shallow Groundwater in the Qian'an Basin of Tangshan City, China	XUE XIA, ZHIHUI QU, HAOWEI YUAN, ZHIQIANG GONG, SIHUI SHAO, HUIMIN KONG, BIAO YU	5905
25. Comparative Assessment of 16S rRNA and Metagenomic Sequencing for Characterizing Microbial Communities across Mangrove Water-Sediment Interfaces	JIADING YANG, XUEMEI HAN, WENFEI ZHANG, FENGYU LIU, SHUJIA CHANG	5919
26. Machine Learning Methods for Forecasting Flight Carbon Emissions	MINGHAN ZHANG, YUQI WANG	5935
27. Evaluation of Mechanical Properties and Environmental Benefits of Bentonite-Modified Cement-Stabilized Silt	ZHIBO ZHANG, WEI CHEN, XIANGCAI PAN, FANFEI WU, YU ZHOU, QIANG TANG	5945
28. Characteristics Analysis of Spatiotemporal Precipitation Variability in the Middle Yellow River Basin	YU ZHANSHENG, LUO MINGJIE	5957
29. Climate Extremes Increase Air Pollution in China	DIWEI ZHENG, DAXIN DONG	5975

30. Spatially Informed Quality of Rural Life Model for Land Use Suitability
in Mountainous Regions of Wumeng
XIONGBIN ZHU, SUCHARITA SRIRANGAM, TAMILSALVI MARI,
HONG WU, SIYOU XIAO 5989
31. Different Soil Tillage Methods on Soil Capacity and Maize Yield in Hulunbuir Area
FEI ZOU, RUIXIA ZHAO, ZHIGANG WANG, JINGSHUN WANG, PING YU,
DONGXIAN SUN, YUNHUA SU, XIAOLI ZHANG, QINGCHUN MENG,
DALING MA 6007

POLISH JOURNAL OF ENVIRONMENTAL STUDIES
Vol. 35, No. 5 (2026)
PART II

REVIEW

1. The Progress, Hotspots, and Prospects of Restoration of Abandoned Mines:
A Scientometric Analysis
XIAOPING HUANG, ZHENDE ZHU, LUXIANG WANG, SHU ZHU,
ZHIJIAN JIANG 6019
2. Progress in Research on the Effect of Litter on the Carbon Cycle
WEISHAN LIN, LIN ZHANG, KEJIA DE, TINGXU FENG, XUEMEI XIANG,
FEI LI, XIJIE WEI 6037
3. Microplastics in Polish Inland Waters: Current Knowledge, Methodological Limitations,
and Research Needs
KAMIL TARASEWICZ, MACIEJ KARPOWICZ 6059

ORIGINAL RESEARCH

1. Phytochemical Composition and Biological Activity Evaluation of *Juniperus sabina*
Essential Oil
ABDENOUR ADJAUD, OUARDA BENKHELLAT-ADJAUD, HOCINE ABBACI,
OLIVERA POLITEO, FÉLIX TOMI, MATHIEU PAOLI, FRANKO BURČUL,
KAMAL MOUSSI, PETRA BRZOVIĆ, HOCINE LAOUER,
HAMID BOUDJELIDA 6073
2. Investigation of Onion Peel Waste as a Valuable Resource in Controlling the Potentially
Toxic Cyanobacterium *Microcystis aeruginosa* Growth
MERYEM AIT AMEUR, MERYEM LAHLALI, NAJAT MANAUT,
BRAHIM BOUALY, MOHAMMED LOUDI KI, MOUNTASSER DOUMA 6085
3. Integrated Application of Enriched Compost and Chemical Fertilizers Improves
Soil Fertility, Zinc Biofortification, and Cucumber Productivity
MUHAMMAD MUNIR ANJUM, MUHAMMAD FAKHAR U ZAMAN AKHTAR,
MAQSHOOF AHMAD, AZHAR HUSSAIN, ZAFAR IQBAL,
AHMED MAHMOUD ISMAIL, SHERIF MOHAMED ELGANAINY,
HOSSAM S. EL-BELTAGI, HOSSAM M. DARRAG, MAHA LOUTFI HADID 6095
4. Effect of Foliar Application of Zinc on Growth, Yield, and Quality of Mung Bean
(*Vigna radiata* L.) under Different Irrigation Regimes
MUHAMMAD ASIF, ABDUL HADI, AHSAN AZIZ, IMRAN KHAN,
NAEEM AKHTAR, JAMEEL M. AL-KHAYRI, BADER ALSUBAIE,
OTHMAN AL-DOSSARY, MUNEERA Q. AL-MSSALLEM,
MUSTAFA I. ALMAGHASLA 6111
5. Spatio-Temporal Variation, Regional Imbalance, and Spatial Dynamics of Straw Resource
Economic Pressure in China's Crop Sector
SHUANGLING BAI, QI QI 6123

6. LC-ESI-MS/MS Profiling, Phytoconstituent Evaluation, Antimicrobial and Antioxidant Effect of Selected 8 Medicinal Plants Growing in Saudi Arabia
NOUR S. BASUDAN 6139

7. Soil Carbon Flux Characteristics in Tobacco Fields of Guizhou under Different Mulching Methods
HONGBING CHEN, JIANYUN ZHOU, SONGHAI SHI, WEICHANG GAO,
CHEN XU, JUNCONG LIU, LINJING WU, TAOZE LIU, KE JIANG, JIEGANG LIU,
ZHANGHONG WANG 6151

8. An Innovative Geopolymer Composite Insulation Material Based on Phytoremediation Biowaste: Solidification/Stabilization of Potentially Toxic Metals
JUAN DU, JINFENG SHI, LEI ZHANG, XIANGHONG REN, JING DONG,
SHUAI YANG, JIAPENG LIU 6165

9. Comparison of the Efficiency of Low-Cost Adsorbents for Heavy Metals Removal from the Monitored Polluted River of Nitra
ANNA ĎURICOVÁ, DAGMAR SAMEŠOVÁ, ADAM POCHYBA,
VERONIKA ŠTEFANKA PREPILKOVÁ, JURAJ PONIŠT, ANDREA ZACHAROVÁ,
MARIÁN SCHWARZ, PETER ANDRÁŠ, DARINA VEVERKOVÁ,
MICHAL SEČKÁR, JARMILA SCHMIDTOVÁ 6179

10. Comparative Analysis of Chemical Profiles and Antioxidant Activities Obtained from Irrigated and Rainfed Olive Trees (*Olea europaea* L.) in Southeastern Tunisia
JIHED FAGHIM, AMEL GASMI, NIDHAL MARZOUGUI, TEBRA TRIKI,
SIHEM BEN ALI, MBARKA BEN MOHAMED, BELGASEM LACHIHEB,
FERDAOUS GUASMI 6193

11. Phosphorus Removal by Concrete-Based Layered Double Hydroxides: Efficiency and Mechanism
TINGJUAN FENG, XIAO LIU, YANG LI, YAZE ZHI, YONG YANG, LIN LIU,
MEI YANG 6207

12. Molecular Weight- and Type-Dependent Heterogeneity in Dissolved Organic Matter Binding with Heavy Metals in Natural Waters
TIANBAO GUO, HUACHENG XU 6217

13. Spatiotemporal Patterns and Ecological Trade-offs of Open-pit Mining in Northwest China: A Remote Sensing Perspective on Environmentally Sustainable Development
HAIHUI HAN, XIAOJUAN YAN, HAOJIE CAI, ZHUAN ZHANG,
XIAOYAN CHEN, YONG XU, CHENDI GAO, ZHOUYUAN ZHANG,
MIN YANG 6227

14. Ethnobotanical Studies on the Medicinal and Food Plants of the *Argentina anserina* of the Qinghai-Tibet Plateau
YI HUANG, ZHENTIAN CAI, LIYING LI, KAI CAI, ZHONGYONG LUO,
JIAN XIONG 6247

15. Impact of Excessive Artificial Light at Night (ALAN) on Species Diversity of Plants and Epigeic Insects
ANNA KOSZELNIK-LESZEK, IWONA GRUSS, MAGDA PODLASKA,
RENATA KIELOCH, MACIEJ KOMOROWSKI 6257

16. What Drives the Improvement of Carbon Emission Efficiency of Chinese Cities? JUNZHANG LI, JIANG LU LUO	6265
17. Interactive Effects of Irrigation Methods and Fertilization Gradients on Winter Wheat Growth and Yield YUANYUAN LI, PING HE, XIN ZHAO, DAOXI LI	6275
18. STAMGCN: A Spatio-Temporal Attention-Based Multi-Graph Convolution Model for Fine-Grained Air Quality Analysis HUIXIANG LIU, JIACHENG WANG, LINGPENG MENG, WENBAI CHEN	6293
19. Phytomediated Synthesis of Iron Particles Using Dark Tea Extract for Catalytic Degradation of Malachite Green XIYAO LIU, WENCHANG ZHAO, YAN XIE, JIE GAO, XIAOYAN ZHENG, XINYI LI, YULING LIN, XI YAO, XINYA FU, CHENJIE LIU, LINGYI CAI, ZISHEN HU, CHENHANG YU, TZU-HSING KO	6309
20. Simulation and Prediction of Vegetation Dynamic Change in Three Provinces of Northeast China from 2025 to 2099 Based on Climate Scenarios BINGQIAN LU, HAIXIA ZHANG, QIANG LIU, RINA WU	6321
21. Genetic Variation for the Tolerance to NaCl Stress in Relation to Cultivars: Rooted vs Non-Rooted <i>In vitro</i> Studies NESE OKUT, JIWAN P. PALTA	6331
22. Application of Dissolved Air Flotation in Metal Plating Wastewater Treatment: A Life Cycle Perspective DILSAD ELIF OZTURK, BARIS CANCI, NESLIHAN MANAV-DEMIR	6341
23. A New Method for the Determination of Tellurium Using Slotted Quartz Tube-Flame Atomic Absorption Spectrophotometry with Modified Magnetic Nanoparticles FATMA ÖTÜNCÜ, BERRIN ZİYADANOĞULLARI, FIRAT AYDIN	6353
24. Insights into the Combining Ability Analysis for Yellow Rust Resistance, Grain Yield Per Plant, and Yield Components in Bread Wheat HANEED RAZA, ILTAF ULLAH, MUHAMMAD KHALID, JUNAID KHAN, MOHAMMAD K. OKLA, SAUD S. AL-AMRI, ABDULRAHMAN A. ALATAR, QUAID HUSSAIN, SALMAN ALI, SHAH FAHAD, ABBAS ALI	6363
25. Do Urban Rivers Provide Sanctuary to Macroinvertebrates? A Case Study of an Urban Stretch of the Apies River in Pretoria, South Africa MAPURUNYANE C. SELALA, REFENTJE M.V. MOKWENA, BOIKOKETSO RAMOKOLO, ABRAM MELAMU, TEBATSO V. MMAKO, JEFFREY LEBEPE	6375
26. Valorization of Industrial By-Products and Natural Zeolite for Sintered Materials: Comparative Chemical, Structural, and Thermal Characterization ANA STOJKOVIĆ, IVAN KRSTIĆ, DRAGAN ĐORĐEVIĆ, NENAD KRSTIĆ, ANA BIJELIĆ, MILAN PROTIĆ, AMELIJA ĐORĐEVIĆ	6387
27. Strength Monitoring Technology of Loess Slope Based on Distributed In-Situ Monitoring ZUNLI TENG	6399

28. Preparation of Magnesium-Modified Dual-Sludge Biochar and Its Aqueous Phosphorus Adsorption Characteristics JINGXI TIE, YUNHAN HAN, MENGJIA YAN, SIHAO SHAO, XIAOHAN DUAN, NAN ZHANG, SHULI LIU	6415
29. Environmental Assessment of PM _{2.5} Concentration Patterns Through TC-MixerInformer Modeling: Cross-Regional Analysis of Shanghai and London ZIHAN WANG, CHANGGUI GU	6425
30. Optimizing Real-Time PM _{2.5} Predictions with Deep Belief Networks: Synergistic Role of Kriging Interpolation JIN XIAO, CHAO BIAN, GUANGQIU HUANG	6447
31. Tree Leaf Morphology Shapes Particulate Matter Retention and Wash-off Dynamics under Simulated Rainfall ZUZANNA ZAJĄC, HANNA MONIUSZKO, MARIIA PISMANIK, ARKADIUSZ PRZYBYSZ, MARIOLA WROCHNA, ANDRZEJ ZWOLIŃSKI, ROBERT POPEK	6463
32. A Region-Specific Predictive Model for the Determination of the Wind-Erodible Soil Fraction PETR ZALESK, JANA KOZLOVSKY DUFKOVA, DOMINIK MAJKUS, TOMAS MASICEK, SABINA ZALESAKOVA	6473
33. Influence of AHLs on the Characteristics and Development of Biofilms in a PHBV-Supported SPD System SHUSONG ZHANG, HUANHUAN DING, MINGFAN SI, ANQI YANG, PENG XU	6483
34. Optimized Synthesis of Lanthanum-Modified {201}-Faceted TiO ₂ for Enhanced Fluoride Adsorption ZHEN ZHOU, YAQIN YU, YUAN CHENG, NINGRAN HOU, WEN MA, XIAOJUN FANG	6495
35. Resilience Assessment and Technological Innovation-Driven Pathway Analysis for Coal Mine Environment Safety Risks YANNA ZHU, GUISHENG ZHANG, GANG HE, KEYU BAO	6505

NOTES TO AUTHORS

The following types of articles will be published:

- Full length research paper – describing original research;
- Short Communication – short research articles intended to present exciting findings that will have a major impact in environmental science;
- Reviews – should be a critical evaluation of the current stage of research on a particular environmental problem;
- Invited accelerated articles – stimulating the up-to-date research;

The submitted manuscripts, which must not have been published elsewhere, will be reviewed by The Editorial Board Members of the “Polish Journal of Environmental Studies,” assisted by Referees.

Authors of papers involving experiments with animals are requested to include the opinion and approval of Local Committee of Ethics.

The recommended order of presentation

- **Title.**
- **Author's name and affiliations, e-mail address.**
- **Abstract.** An abstract stating the results and the novel aspects of the work and findings.
- **Keywords.** Up to 5 keywords or key phrases, indicating the topic of importance in the work.
- **Introduction.** An introductory statement of the subject under investigation with any essential historical background.
- **Experimental Procedures.** Working details must be given concisely; well-known operations should not be described in detail.
- **Results.** These could be presented in tabular or graph form, with appropriate statistical evaluation.
- **Discussion of Results.** The consolidation of the study and general implications should be presented and discussed with up-to-date scientific literature.
- **Conclusions.** Should include significance of the findings and recommendations for future work.
- **Acknowledgements.**
- **Units and Nomenclature.** The SI system of units and current internationally recognized (IUPAC) chemical nomenclature should be used. Common trivial names may be used, but should first be defined in terms of IUPAC nomenclature.
- **References** should be indicated in the text by consecutive numbers and the full references should be listed in the same order at the end of the article in the following form:

References

1. KŁOS-WITKOWSKA A. Enzyme-based fluorescent biosensors and their environmental, clinical and industrial applications. *Pol. J. Environ. Stud.* **24** (1), 19, **2015**.
2. CHEN T. Y., LAI P. Y. A comparative study of energy utilization efficiency between Taiwan and China. *Energ. Policy.* **38** (5), 2386, **2010**.
3. HEPEL M., ZHONG C. J. Functional nanoparticles for bioanalysis, nanomedicine and bioelectronics devices. *ACS symposium series*; 1112, USA, **2012**.

The following parameters should be used for manuscript preparation:

- Spacing 1.5, font size 12, and a margin of 2.5 cm on all four sides of the paper
- Tables and figures should be included after references
- The most popular word processor file formats are recommended

Proofs

Proofs should be carefully checked by corresponding Author and returned on time to Editors.

On-line manuscript submission

Please create an account and log in at:

www.editorialsystem.com/pjoes

In the case of any problem, please do not hesitate to contact with us via e-mail:

office@pjoes.com

After submission, each manuscript will be assigned an editorial number that authors should use in all correspondence with journal staff.

Payment

The price of publishing in “Polish Journal of Environmental Studies” is **37 EURO + 0% VAT** and **150 PLN + 8% VAT** per one page of manuscript for foreign and Polish Authors, respectively. Each Figure and each Table is considered as one page of manuscript. The fee for each Figure in colour is 74 EURO. The price includes high quality PDF of article, which will be send to corresponding Author.

***In the year 2025 Index Citation Report:
Impact Factor: 1.600***

ISO Abbrev. Title: *Pol. J. Environ. Stud.*

The “Polish Journal of Environmental Studies” is indexed and/or abstracted in: Science Citation Index Expanded (Web of Science Core Collection); Chemical Abstracts Service (CAS); BIOSIS / Zoological Record (Clarivate); CAB Abstracts (CABI); EBSCOhost academic databases; and is listed in Ulrich's International Periodicals Directory.

The journal is also listed and evaluated in the Index Copernicus Journals Master List (ICV).

Visit us at: <http://www.pjoes.com>

Our e-mail: officehard@pjoes.com

HARD Publishing Company Olsztyn, POLAND
Linguistic edition: Mark Macznik "COPYMARK"

Composition: Jolanta Czaplą

Technical edition and technical verification: dr. Elena Bisetto

Printing: "GUTGRAF" Olsztyn, Poland

SUBSCRIPTION INFORMATION

"Polish Journal of Environmental Studies"
(ISSN 1230-1485)
is published bimonthly since 1996.
Subscription rates for Volume 35 (2026) are:
Institutions: 288 EURO + 0% VAT
(six issues per year)
Individuals: 96 EURO + 0% VAT
(six issues per year)

INFORMACJE O PRENUMERACIE

„Polish Journal of Environmental Studies”
(ISSN 1230-1485)
jest dwumiesięcznikiem od 1996 roku.
Roczna prenumerata tomu 35 (2026) wynosi dla:
Instytucji: 360 PLN + 8% VAT (6 numerów w roku)
Indywidualnych odbiorców: 144 PLN + 8% VAT
(6 numerów w roku)

ORDER FORM of "Polish Journal of Environmental Studies"

Volume:
Year:
Number of issues:
Institution:
- name
- address
- VAT number

Please send the order to:
"Polish Journal of Environmental Studies"
"HARD" Publishing Company
WENGRIS 71
10-718 OLSZTYN, POLAND
e-mail: officehard@pjoes.com

Method of payment:
Please send payments to the account of
Polska Kasa Opieki S.A., Oddział Olsztyn, Poland
number: **PL 19124015901111000014317981**
SWIFT: PKOPPLPW

ISSN 1230-1485

FORMA ZAMÓWIENIA PRENUMERATY „Polish Journal of Environmental Studies”

Numer tomu:
Rok:
Ilość egzemplarzy:
Instytucja zamawiająca:
- Nazwa
- Adres
- Nr NIP

Zamówienie należy przesłać na adres:
„Polish Journal of Environmental Studies”
Redakcja HARD Publishing Company
ul. WENGRIS 71
10-718 OLSZTYN
e-mail: officehard@pjoes.com

Sposób opłacenia:
Proszę przekazać opłatę na rachunek
Polska Kasa Opieki S.A., Oddział Olsztyn
numer: **19124015901111000014317981**